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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/715,863	11/19/2003	Chih-Sung Chang	4392-0144P	5612
2292	7590	06/06/2005	EXAMINER	
BIRCH STEWART KOLASCH & BIRCH PO BOX 747 FALLS CHURCH, VA 22040-0747			TRAN, MINH LOAN	
			ART UNIT	PAPER NUMBER
			2826	

DATE MAILED: 06/06/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/715,863

Applicant(s)

CHANG ET AL.

Examiner

Minh-Loan T. Tran

Art Unit

2826

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 11 April 2005.  
2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-32 is/are pending in the application.  
4a) Of the above claim(s) 27-32 is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1,2,6-14 and 18-26 is/are rejected.  
7) ☒ Claim(s) 3-5 and 15-17 is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.  
10) ☒ The drawing(s) filed on 19 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:  
1. ☒ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 11/19/03.  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.  
5) ☐ Notice of Informal Patent Application (PTO-152)  
6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Election/Restrictions***

1. Applicant's election with traverse of Group I, claims 1-26 in the reply filed on 04/11/2005 is acknowledged. The traversal is on the ground(s) that it should be no undue burden on the Examiner to consider all claims in the single application. This is not found persuasive because referring to the restriction requirement set forth in the Office Action paper mailed on 03/10/2005, it clearly shows that the alternative method proposed by the examiner would be distinct from the process claimed. Additionally, the search is not coextensive as evidenced by the different fields of search for the process and product as cited in the previous restriction requirement. Furthermore, Applicant has not provided a convincing argument that the materially different processes would not be suitable in producing the claimed device.

The requirement is still deemed proper and is therefore made FINAL.

***Priority***

2. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

***Information Disclosure Statement***

3. The information disclosure statement filed 11/19/2003 has been considered.

***Oath/Declaration***

4. The oath or declaration filed on 11/19/2003 is acceptable.

***Drawings***

5. The drawings filed on 11/19/2003 are acceptable.
6. The Preliminary Amendment filed on 11/19/2003 has been entered.

***Claim Rejections - 35 USC § 102***

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1 , 2, 6, 11, 13 and 14, 18, 19, 24, 26 are rejected under 35 U.S.C. 102(b) as being anticipated by Iwasaki (6,034,712).

With regard to claims 1, 2, 11, 13, 14, 24, 26, figure 1 of Iwasaki discloses a package for a light emitting diode 9 comprising a conduction board 1; an insulation layer 2 disposed on the conduction board 1; a conductive layer 3, having an opening, disposed on the insulation layer 2; a reflective layer 4 having slanted cup-like reflection surfaces 5a, 5b (portion below the insulation layer 2) inserted into the insulation layer 2 through the opening for support and electrically connecting the light emitting diode 9; wherein the reflective layer 4 is electrically coupled to the conduction board 1 and electrically insulated from at least a portion of the conductive layer 3.

With regard to claims 6 and 18, figure 1 of Iwasaki discloses an adhesive layer 6 for adhering the LED 9 to the reflective layer 4.

With regard to claim 19, figure 1 of Iwasaki discloses a metal wire 10 for coupling an electrode of the LED 9 with the portion of the conductive layer 3.

### ***Claim Rejections - 35 USC § 103***

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 7, 8, 9, 10, 12, 20, 21, 22, 23, 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Iwasaki (6,034,712).

With regard to claims 7, 8, 20, 21, figure 1 of Iwasaki discloses the conduction board 1 is a metal board ( aluminum) for dissipating heat generating by the LED 9. Figure 1 of Iwasaki does not disclose the metal board has a thickness in a range of about several hundred micrometers to several millimeters. However, it would have been obvious to one of ordinary skill in the art to form the conduction board 1 of Iwasaki having a thickness in a range of about several hundred micrometers to several millimeters in order to enhance the dissipating heat generated by the LED 9.

With regard to claims 9 and 22, figure 1 of Iwasaki does not disclose the insulation layer comprises an insulation adhesive layer including epoxy or Teflon. However, it would have been obvious to one of ordinary skill in the art to form the

insulation layer 2 of Iwasaki that is made of insulation adhesive layer including epoxy or Teflon in order to improve the adhesion between the conductive layer and the conduction board.

With regard to claims 10 and 23, figure 1 of Iwasaki discloses the conductive layer 3 is a copper layer. Figure 1 of Iwasaki does not disclose the conductive layer 3 having a thickness in a range of about 0.1 to several mils. However, it would have been obvious to one of ordinary skill in the art to form the conductive layer of Iwasaki having a thickness in a range of about 0.1 to several mils in order to obtain a compact package for the LED.

With regard to claims 12 and 25, figure 1 of Iwasaki does not disclose the reflection surfaces 5a, 5b comprise a silver surface. However, it would have been obvious to one of ordinary skill in the art to form the reflection surfaces 5a, 5b having a silver surface because silver is well known in the art for forming a reflector for the LED package.

### **Allowable Subject Matter**

9. Claims 3-5, 15-17 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

### **Conclusion**

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Minh-Loan T. Tran whose telephone number is (571)


Art Unit: 2826

272-1922. The examiner can normally be reached on Monday-Friday 9:00 AM-5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nathan J. Flynn can be reached on (571) 272-1915. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Mlt  
05/2005

  
Minh-Loan T. Tran  
Primary Examiner  
Art Unit 2826